

## Notice

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# **ENZYME DISORDERS**

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**ALPHABETIC INDEX**

## FUNCTION - SECTION 3: ENZYME DISORDERS

### ALPHABETIC INDEX

#### **Disorder of:**

##### **"A"**

- F-3136** Acetoacetyl-coenzyme A reductase  
**F-3336** Acetoacetyl-coenzyme A thiolase  
**F-3538** Acetoacetylglutathione hydrolase  
**F-3539** Acetoacetylhydrolipate hydrolase  
**F-3104** Acetoin dehydrogenase  
**F-3428** Acetol kinase  
**F-3827** Acetylaminodeoxyglucosephosphate isomerase  
**F-3454** Acetylaminodeoxyglucose phosphomutase  
**F-3605** beta-Acetylaminodeoxyglucosidase  
**F-3516** Acetylcholinesterase  
**Acetyl-coenzyme A**  
**F-3336** acetyltransferase  
**F-3344** acyltransferase  
**F-3972** carboxylase  
**F-3531** hydrolase  
**F-3921** synthetase  
**F-3515** Acetylesterase  
**F-3743** N-acetylneuraminate lyase  
**F-3314** Acetylserotonin methyltransferase  
**F-3542** Acid phosphatase  
**F-3753** Aconitase  
**F-3753** Aconitate hydratase  
**F-3208** Acyl-coenzyme A dehydrogenase  
**F-3922** Acyl-coenzyme A synthetase  
**F-3682** Acylphosphatase  
**F-3330** Acyltranferase  
**F-3667** Adenine deaminase  
**F-3363** Adenine phosphoribosyltransferase  
**F-3669** Adenosine deaminase  
**F-3419** Adenosine kinase  
**Adenosine monophosphate**  
**F-3672** deaminase  
**F-3609** nucleosidase  
**F-3363** pyrophosphorylase  
**F-3359** Adenosine phosphorylase  
**F-3678** Adenosine triphosphatase, calcium activated  
**F-3679** Adenosine triphosphatase, magnesium activated  
**F-3683** Adenosine triphosphate pyrophosphorylase  
**F-3673** Adenosinediphosphate deaminase  
**F-3614** Adenosylhomocysteinase  
**F-3449** Adenylate kinase  
**F-3774** Adenylosuccinase  
**F-3774** Adenylosuccinate lyase  
**F-3424** Adenylylsulfate kinase  
**Alanine**  
**F-3382** aminotransferase  
**F-3212** dehydrogenase

#### **Disorder of:**

##### **Alanine (Cont'd.)**

- F-3382** -glutamate transaminase  
**F-3388** -ketoacid aminotransferase  
**F-3916** Alanyl-RNA synthetase  
**F-3101** Alcohol dehydrogenase  
**F-3193** Aldehyde dehydrogenase  
**F-3202** Aldehyde oxidase  
**F-3730** Aldolase  
**F-3526** Aldonolactonase  
**Aldose**  
**F-3816** l-epimerase  
**F-3816** mutarotase  
**F-3121** reductase  
**F-3541** Alkaline phosphatase  
**F-3293** Alkoxyaryl hydroxylase  
**F-3686** Alkylhalidase  
**F-3665** Allantoicase  
**F-3663** Allantoinase  
**F-3735** Allothreonine aldolase  
**F-3654** Amidase  
**F-3653** omega-Amidase  
**F-3930** Amide synthetase  
**F-3394** Amidinotransferase  
**F-3371** Amidophosphoribosyltransferase  
**F-3216** d-Aminoacid oxidase  
**F-3215** L-Aminoacid oxidase  
**F-3626** Aminoacyl-histidine dipeptidase  
**F-3331** Aminodeoxyglucose acetyltransferase  
**F-3408** Aminodeoxyglucose kinase  
**F-3332** Aminodeoxyglucosephosphate acetyltransferase  
**F-3826** Aminodeoxyglucosephosphate isomerase  
**F-3763** Aminolevulinate dehydratase  
**F-3713** Aminomalonate decarboxylase  
**F-3618** Aminopeptidase  
**F-3616** alpha-Aminopeptide aminoacidohydrolase  
**F-3380** Aminotransferase  
**F-3619** Aminotripeptidase  
**F-3580** Amylase  
**F-3581** alpha-Amylase  
**F-3582** beta-Amylase  
**F-3588** Amylo-1,6-glucosidase  
**F-3353** Amylomaltase  
**F-3145** L-Arabinose dehydrogenase  
**F-3111** d-Arabitol dehydrogenase  
**F-3112** L-Arabitol dehydrogenase  
**F-3664** Arginase  
**F-3666** Arginine deiminase  
**F-3773** Argininosuccinase  
**F-3773** Argininosuccinate lyase  
**F-3953** Argininosuccinate synthetase  
**F-3333** Arylamine acetyltransferase

**Disorder of:**

F-3511 Arylesterase  
 F-3281 Aryl 4-hydroxylase  
 F-3572 Arylsulfatase  
 F-3485 Aryl sulfotransferase  
 F-3651 Asparaginase  
 F-3391 Asparagine-ketoacid amino-transferase  
**Aspartate**  
 F-3381 aminotransferase  
 F-3325 carbamoyltransferase  
 F-3445 kinase  
 F-3214 d-Aspartate oxidase  
 F-3678 ATPase, calcium activated  
 F-3679 ATPase, magnesium activated  
 F-3683 ATP pyrophosphohydrolase  
 F-3251 Azobenzene reductase

**"B"**

F-3194 Benzaldehyde dehydrogenase  
 F-3518 Benzoylcholinesterase  
 F-3195 Betaine aldehyde dehydrogenase  
 F-3315 Betaine homocysteine methyl-transferase  
 F-3659 Biotinidase  
 F-3103 Butyleneglycol dehydrogenase  
 F-3494 Butyrate coenzyme A-transferase  
 F-3207 Butyryl-coenzyme A dehydrogenase

**"C"**

F-3443 Carbamate kinase  
 F-3323 Carbamoyltransferase  
 F-3751 Carbonate dehydratase  
 F-3751 Carbonic anhydrase  
 F-3510 Carboxylesterase  
 F-3510 Carboxylic ester hydrolase  
 F-3323 Carboxyltransferase  
 F-3621 Carboxypeptidase A  
 F-3622 Carboxypeptidase B  
 F-3620 alpha-Carboxypeptide amino-acidohydrolase  
 F-3335 Carnitine acetyltransferase  
 F-3626 Carnosinase  
 F-3273 Catalase  
 F-3261 Catechol oxidase  
 F-3630 Cathepsin  
 F-3641 Cathepsin C  
 F-3584 Cellulase  
 F-3524 Chlorophyllase  
 F-3523 Cholesterol esterase  
 F-3176 Cholesterol oxidase  
**Choline**  
 F-3334 acetyltransferase  
 F-3181 dehydrogenase  
 F-3432 kinase  
 F-3474 Cholinephosphate cytidylyl-transferase  
 F-3477 Cholinephosphotransferase

**Disorder of:**

F-3517 Cholinesterase  
 F-3925 Choloyl-coenzyme A synthetase  
 F-3574 Chondrosulfatase  
 F-3636 Chymotrypsin  
 F-3637 Chymotrypsin B  
 F-3746 Citrate condensing enzyme  
 F-3746 Citrate synthase  
 F-3491 Coenzyme A-transferase  
 F-3154 Cortisone reductase  
 F-3447 Creatine kinase  
 F-3758 Crotonase  
 F-3761 Cystathionine synthase  
 F-3253 Cysteamine dehydrogenase  
**Cysteine**  
 F-3383 aminotransferase  
 F-3781 desulphydrase  
 F-3762 synthase  
 F-3722 Cysteinesulfinate decarboxylase  
 F-3627 Cysteinyl-glycine dipeptidase  
 F-3235 Cystine reductase  
 F-3671 Cytidine deaminase  
 F-3258 Cytochrome oxidase  
 F-3272 Cytochrome peroxidase

**"D"**

F-3710 Decarboxylase  
 F-3750 Dehydratase  
 F-3100 Dehydrogenase  
 F-3565 Deoxyribonuclease  
 F-3566 Deoxyribonuclease II  
 F-3423 Dephospha-coenzyme A kinase  
 F-3464 Dephospha-coenzyme A pyrophosphorylase  
 F-3591 Dextranase  
 F-3219 Diamine oxidase  
 F-3387 Diaminoacid aminotransferase  
 F-3224 Dihydrofolate dehydrogenase  
 F-3662 Dihydro-orotate  
 F-3661 Dihydropyrimidinase  
 F-3206 Dihydro-uracil dehydrogenase  
 F-3328 Dihydroxyacetone transferase  
 F-3718 3,4-Dihydroxy-L-phenylalanine decarboxylase  
 F-3687 Di-isopropylfluoro-phosphatase  
 F-3372 Dimethylallyltransferase  
 F-3313 Dimethylthetin homocysteine methyltransferase  
 F-3623 Dipeptidase  
 F-3623 Dipeptide hydrolase  
 F-3262 p-Diphenol oxidase  
 F-3552 Diphosphoglycerate phosphatase  
 F-3456 Diphosphoglyceromutase  
 F-3467 DNA nucleotidyltransferase  
 F-3961 DPN synthetase

**"E"**

F-3638 Elastase  
 F-3754 Enolase

**Disorder of:**

- F-3758 Enoyl-coenzyme A hydratase  
 F-3639 Enterokinase  
 F-3639 Enteropeptidase  
 F-3000 Enzyme  
 F-3810 Epimerase  
 F-3426 Erythritol kinase  
 F-3822 Erythrose isomerase  
 F-3510 Esterase  
 F-3473 Ethanolaminephosphate cytidylyltransferase  
 F-3476 Ethanolaminephotransferase

**"F"**

- F-3372 Farnesyl-pyrophosphate synthetase  
 F-3643 Fibrinolysin  
 F-3463 Flavin-adenine dinucleotide pyrophosphorylase  
 F-3463 Flavin mononucleotide adenylyl-transferase  
 F-3191 Formaldehyde dehydrogenase  
 F-3657 Formamidase  
 F-3192 Formate dehydrogenase  
 F-3772 Formiminotetrahydrofolate cyclodeaminase  
 F-3658 Formyltetrahydrofolate deformylase  
 F-3952 Formyltetrahydrofolate synthetase  
 F-3602 beta-Fructofuranosidase  
 F-3404 Fructokinase  
 F-3752 Fumarase  
 F-3752 Fumarate hydratase  
 F-3685 Fumarylacetooacetase

**"G"**

- F-3115 Galactitol dehydrogenase  
 F-3406 Galactokinase  
 F-3209 Galactonolactone dehydrogenase  
 F-3147 Galactose dehydrogenase  
 F-3471 Galactose-1-phosphate uridylyl-transferase  
 F-3598 alpha-Galactosidase  
 F-3599 beta-Galactosidase  
 F-3941 gamma-Glutamyl-cysteine synthetase  
 F-3297 Gentisate oxygenase  
 alpha-Glucan  
 F-3356 -branching glycosyltransferase  
 F-3352 phosphorylase  
 F-3354 -uridine diphosphoglucosyl-transferase  
 F-3583 Glucoamylase  
 F-3402 Glucokinase  
 F-3183 Gluconate dehydrogenase  
 F-3412 Gluconokinase  
 F-3525 Gluconolactonase  
 F-3352 Glucosan transglucosylase  
 F-3146 Glucose dehydrogenase  
 F-3962 Glucose monophosphate synthetase

**Disorder of:**

- F-3174 Glucose oxidase  
 F-3549 Glucose-1-phosphatase  
 F-3548 Glucose-6-phosphatase  
 F-3148 Glucose-6-phosphate dehydrogenase  
 F-3825 Glucosephosphate isomerase  
 F-3441 Glucose-1-phosphate phospho-dismutase  
 F-3470 Glucose-1-phosphate uridylyl-transferase  
 F-3453 Glucose phosphomutase  
 F-3596 alpha-Glucosidase  
 F-3603 alpha-1, 3-Glucosidase  
 F-3597 beta-Glucosidase  
 F-3118 Glucuronate reductase  
 F-3606 beta-Glucuronidase  
 F-3119 Glucuronolactone reductase  
**Glutamate**  
 F-3714 decarboxylase  
 F-3213 dehydrogenase  
 F-3322 formiminotransferase  
 F-3381 Glutamic-oxaloacetic transaminase  
 F-3382 Glutamic-pyruvic transaminase  
 F-3652 Glutaminase  
**Glutamine**  
 F-3393 -fructose-6-phosphate aminotransferase  
 F-3392 -ketoacid aminotransferase  
 F-3342 phenylacetyltransferase  
 F-3931 synthetase  
 F-3924 Glutaryl-coenzyme A synthetase  
**Glutathione**  
 F-3256 -homocystine transhydrogenase  
 F-3236 reductase  
 F-3942 synthetase  
 F-3537 thiolesterase  
 F-3196 Glyceraldehydephosphate dehydrogenase  
**Glycerate**  
 F-3129 dehydrogenase  
 F-3431 kinase  
 F-3455 phosphomutase  
 F-3105 Glycerol dehydrogenase  
 F-3429 Glycerol kinase  
 F-3343 Glycerolphosphate acyl-transferase  
 F-3107 Glycerolphosphate dehydrogenase  
 F-3562 Glycerophosphorylcholine diesterase  
**Glycine**  
 F-3341 acyltransferase  
 F-3393 amidinotransferase  
 F-3321 formiminotransferase  
 F-3327 Glycolaldehydetransferase  
 F-3171 Glycollate oxidase  
 F-3580 Glycosidase

**Disorder of:**

F-3580 Glycoside hydrolase  
 F-3573 Glycosulfatase  
 F-3350 Glycosyltransferase  
 F-3624 Glycyl-glycine dipeptidase  
 F-3625 Glycyl-leucine dipeptidase  
 F-3783 Glyoxalase I  
 F-3536 Glyoxalase II  
 F-3126 Glyoxylate reductase  
 F-3446 Guanidinoacetate kinase  
 F-3312 Guanidinoacetate methyl-transferase  
 F-3668 Guanine deaminase  
 F-3144 L-Gulonate dehydrogenase (decarboxylating)

**"H"**

F-3595 Heparinase  
 F-3401 Hexokinase  
 F-3551 Hexosediphosphatase  
 F-3175 Hexose oxidase  
 F-3393 Hexosephosphate aminotransferase  
 F-3472 Hexose-1-phosphate uridylyl-transferase  
 F-3351 Hexosyltransferase  
 F-3219 Histaminase  
 F-3771 Histidine ammonia-lyase  
 F-3771 Histidine alpha-deaminase  
 F-3716 Histidine decarboxylase  
 F-3123 Histidinol dehydrogenase  
 F-3782 Homocysteine desulhydrase  
 F-3298 Homogentisate oxygenase

**Homoserine**

F-3756 dehydratase  
 F-3102 dehydrogenase  
 F-3438 kinase  
 F-3764 Hyaluronate lyase  
 F-3764 Hyaluronidase  
 F-3750 Hydratase  
 F-3337 Hydrogen sulfide acetyl-transferase

F-3500 Hydrolase  
 F-3269 Hydroperoxidase  
 F-3164 d-2-Hydroxyacid dehydrogenase  
 F-3135 3-Hydroxyacyl-coenzyme A dehydrogenase

F-3536 Hydroxyacylglutathione hydrolase  
 F-3131 3-Hydroxybutyrate dehydrogenase  
 F-3813 3-Hydroxybutyryl-coenzyme A epimerase  
 F-3153 alpha-Hydroxycholanate dehydrogenase

F-3182 2-Hydroxyglutarate dehydrogenase  
 F-3132 3-Hydroxyisobutyrate dehydrogenase

F-3534 3-Hydroxyisobutyryl-coenzyme A hydrolase

F-3280 Hydroxylase

**Disorder of:**

**Hydroxymethylglutaryl-coenzyme A**  
 F-3535 hydrolase  
 F-3744 lyase  
 F-3134 reductase  
 F-3745 synthase  
 F-3225 Hydroxymethyltetrahydrofolate dehydrogenase  
 F-3295 p-Hydroxyphenylpyruvate hydroxylase  
 F-3151 3-alpha-Hydroxysteroid dehydrogenase  
 F-3152 beta-Hydroxysteroid dehydrogenase  
 F-3486 3-beta-Hydroxysteroid sulfotransferase  
 F-3721 Hydroxytryptophan decarboxylase  
 F-3364 Hypoxanthine phosphoribosyltransferase

**"I"**

F-3114 d-Iditol dehydrogenase  
 F-3113 L-Iditol dehydrogenase  
 F-3629 Imidodipeptidase  
 F-3628 Iminodipeptidase  
 F-3676 Inorganic pyrophosphatase  
 F-3608 Inosinase  
**Inosine monophosphate**  
 F-3675 cyclohydrolase  
 F-3197 dehydrogenase  
 F-3364 pyrophosphorylase  
 F-3117 Inositol dehydrogenase  
 F-3645 Insulinase  
 F-3274 Iodinase  
 F-3141 Isocitrate dehydrogenase  
 F-3742 Isocitrate lyase  
 F-3914 Isoleucyl-RNA synthetase  
 F-3800 Isomerase  
 F-3831 Isopentenylpyrophosphate isomerase

**"K"**

F-3495 3-Ketoacid coenzyme A-transf erase  
 F-3344 3-Ketoacyl-coenzyme A thiolase  
 F-3413 Ketogluconokinase  
 F-3403 Ketohexokinase  
 F-3732 Ketotetrosealdolase  
 F-3386 Kynurenine aminotransferase  
 F-3285 Kynurenine 3-hydroxylase

**"L"**

F-3128 d-Lactate dehydrogenase  
**Lactate**  
 F-3127 dehydrogenase  
 F-3163 dehydrogenase isoenzyme

**Disorder of:**

- Lactate (Cont'd.)
- F-3172 oxidase  
F-3812 racemase  
F-3127 Lactic dehydrogenase  
F-3783 Lactoyl-glutathione lyase  
F-3586 Laminarinase  
F-3617 Leucine aminopeptidase  
F-3385 Leucine aminotransferase  
F-3913 Leucyl-RNA synthetase  
F-3585 Lichenase  
F-3900 Ligase  
F-3589 Limit dextrinase  
F-3512 Lipase  
F-3237 Lipoamide dehydrogenase  
F-3339 Lipoate acetyltransferase  
F-3700 Lyase  
F-3811 Lysine racemase  
F-3832 Lysolecithin acylmutase  
F-3514 Lysophospholipase  
F-3593 Lysozyme  
F-3915 Lysyl-RNA synthetase

**"M"**

- Malate
- F-3137 dehydrogenase  
F-3138 dehydrogenase (decarboxylating)  
F-3173 oxidase  
F-3817 Maleylacetoacetate isomerase  
F-3138 Malic enzyme  
F-3493 Malonate coenzyme A-transferase  
F-3712 Malonyl-coenzyme A decarboxylase  
F-3353 Maltose 4-glucosyltransferase  
F-3162 Mannitol dehydrogenase  
F-3116 Mannitol-1-phosphate dehydrogenase  
F-3407 Mannokinase  
F-3824 Mannosephosphate isomerase  
F-3601 alpha-Mannosidase  
F-3242 Menadione reductase  
F-3483 3-Mercaptopyruvate sulfur-transferase  
F-3674 Methenyltetrahydrofolate cyclohydrolase  
F-3369 Methionine adenosyltransferase  
F-3918 Methionyl-RNA synthetase  
F-3835 Methylmalonyl-coenzyme A mutase  
F-3227 N-Methyl-aminoacid oxidase  
F-3834 Methylaspartate mutase  
F-3974 Methylcrotonoyl-coenzyme A carboxylase  
F-3759 Methylglutaconyl-coenzyme A hydratase  
F-3310 Methyltransferase  
F-3133 Mevaldate reductase  
F-3435 Mevalonate kinase  
F-3217 Monoamine oxidase  
F-3593 Muramidase  
F-3299 Myo-inositol oxygenase  
F-3575 Myrosulfatase

**Disorder of:**

- "N"
- F-3594 Neuraminidase
- Nicotinamide-adenine dinucleotide
- F-3422 kinase  
F-3611 nucleosidase  
F-3612 phosphate nucleosidase  
F-3231 phosphate transhydrogenase  
F-3462 pyrophosphorylase  
F-3961 synthetase
- Nicotinamide
- F-3311 methyltransferase  
F-3462 mononucleotide adenylyl-transferase  
F-3368 mononucleotide pyrophosphorylase  
F-3368 phosphoribosyltransferase  
F-3283 Nicotinate 6-hydroxylase  
F-3367 Nicotinate phosphoribosyl-transferase
- F-3257 Nitrate ester reductase  
F-3607 Nucleosidase  
F-3681 Nucleoside diphosphatase  
F-3452 Nucleosidediphosphate kinase  
F-3451 Nucleosidemonophosphate kinase  
F-3546 3-Nucleotidase  
F-3545 5-Nucleotidase  
F-3684 Nucleotide pyrophosphatase  
F-3461 Nucleotidyl transferase
- "O"
- F-3589 Oligo-1, 6-glucosidase
- Ornithine
- F-3326 carbamoyltransferase  
F-3389 -ketoacid aminotransferase  
F-3326 transcarbamylase
- F-3366 Orotate phosphoribosyl-transferase
- F-3366 Orotidine-5'-phosphate pyrophosphorylase
- F-3492 Oxalate coenzyme A-transferase  
F-3100 Oxidase  
F-3244 Oxidized ascorbate reductase  
F-3100 Oxidoreductase  
F-3396 Oximinotransferase  
F-3496 3-Oxo-adipate coenzyme A-transferase
- F-3184 Oxogluconate dehydrogenase  
F-3204 Oxoglutarate dehydrogenase  
F-3731 Oxohydroxybutyrate aldolase  
F-3100 Oxygenase
- "P"
- F-3532 Palmitoyl-coenzyme A hydrolase
- F-3638 Pancreatopeptidase E

**ENZYME DISORDERS-ALPHABETIC INDEX (continued)**

<b>Disorder of:</b>	<b>Disorder of:</b>
F-3433 Pantetheine kinase	F-3560 Phosphoric diester hydrolase
F-3464 Pantetheinephosphate adenylyl-transferase	F-3540 Phosphoric monoester hydrolase
F-3723 Pantothenoylcysteine decarboxylase	F-3437 Phosphorylase kinase
F-3633 Parapepsin	F-3554 Phosphorylase phosphatase
F-3521 Pectinesterase	F-3543 Phosphoserine phosphatase
F-3733 Pentosealdolase	F-3400 Phosphotransferase
F-3357 Pentosyltransferase	F-3643 Plasmin
F-3632 Pepsin	F-3592 Polygalacturonase
F-3633 Pepsin B	F-3468 Polynucleotide nucleotidyl-transferase
F-3630 Peptidase	F-3468 Polynucleotide phosphorylase
F-3615 Peptide hydrolase	F-3763 Porphobilinogen synthase
F-3631 Peptide peptidohydrolase	F-3372 Prenyltransferase
F-3940 Peptide synthetase	F-3554 PR-enzyme
F-3270 Peroxidase	F-3629 Prolidase
F-3511 Phenolic esterase	F-3106 Propanediolphosphate dehydrogenase
F-3282 Phenylalanine 4-hydroxylase	F-3973 Propionyl-coenzyme A carboxylase
F-3828 Phenylpyruvate tautomerase	F-3622 Protaminase
F-3540 Phosphatase	F-3630 Protease
F-3544 Phosphatidate phosphatase	F-3436 Protein kinase
F-3547 Phosphoadenylyl 3-nucleotidase	F-3296 Protocatechuate oxygenase
F-3688 Phosphoamidase	F-3517 Pseudocholinesterase
F-3561 Phosphodiesterase	F-3580 Ptyalin
F-3411 Phosphofructokinase	F-3358 Purine nucleoside phosphorylase
F-3409 Phosphogluokinase	F-3434 Pyridoxal kinase
F-3453 Phosphoglucomutase	F-3218 Pyridoxamine oxidase
F-3142 Phosphogluconate dehydrogenase	F-3457 Pyrophosphokinase
F-3143 Phosphogluconate dehydrogenase (decarboxylating)	F-3725 Pyrophosphomevalonate decarboxylase
F-3444 Phosphoglycerate kinase	F-3676 Pyrophosphorylase
F-3833 Phosphoglycerate phosphomutase	F-3457 Pyrophosphotransferase
F-3455 Phosphoglyceromutase	F-3221 Pyrroline-2-carboxylate reductase
F-3741 Phosphoketolase	F-3222 Pyrroline-5-carboxylate reductase
F-3400 Phosphokinase	
<b>Phospholipase</b>	
F-3513 A	<b>Pyruvate</b>
F-3514 B	F-3971 carboxylase
F-3563 C	F-3711 decarboxylase
F-3564 D	F-3201 dehydrogenase
F-3448 Phosphomevalonate kinase	F-3439 kinase
F-3943 Phosphopantethenoylcysteine synthetase	F-3439 phosphokinase
F-3553 Phosphoprotein phosphatase	<b>"Q"</b>
F-3724 Phosphopyruvate carboxylase	F-3124 Quinate dehydrogenase
F-3754 Phosphopyruvate hydratase	F-3241 Quinone reductase
F-3418 Phosphoribokinase	
<b>Phosphoribosyl-aminoimidazole</b>	
F-3319 carboxamide formyltransferase	<b>"R"</b>
F-3715 carboxylase	
F-3944 succinocarboxamide synthetase	F-3810 Racemase
F-3951 synthetase	
F-3963 Phosphoribosyl-formylglycineamidine synthetase	<b>Reduced nicotinamide-adenine dinucleotide</b>
F-3318 Phosphoribosyl-glycineamide formyltransferase	F-3233 cytochrome b <sub>5</sub> reductase
F-3932 Phosphoribosyl-glycineamide synthetase	F-3232 cytochrome c reductase
F-3371 Phosphoribosylpyrophosphate amidotransferase	F-3234 phosphate cytochrome c reductase
	F-3100 Reductase
	F-3644 Renin

**Disorder of:**

F-3634 Rennin  
 F-3818 Retinene isomerase  
 F-3405 Rhamnulokinase  
 F-3425 Riboflavin kinase  
 F-3415 Ribokinase  
 F-3475 Ribonuclease  
 F-3823 Ribosephosphate isomerase  
 F-3458 Ribosephosphate pyrophospho-  
     kinase  
 F-3421 Ribosylnicotinamide kinase  
 F-3416 Ribulokinase  
 F-3814 Ribulose phosphate epimerase  
 F-3466 RNA nucleotidyltransferase

**"S"**

F-3226 Sarcosine oxidase  
 F-3414 Sedoheptulokinase  
 F-3755 Serine deaminase  
 F-3755 L-Serine dehydratase  
 F-3317 Serine hydroxymethyltransferase  
 F-3919 Seryl-RNA synthetase  
 F-3125 Shikimate dehydrogenase  
 F-3294 Squalene cyclohydroxylase

**Steroid**

F-3288 6-beta-hydroxylase  
 F-3286 11-alpha-hydroxylase  
 F-3287 11-beta-hydroxylase  
 F-3289 17-alpha-hydroxylase  
 F-3291 19-hydroxylase  
 F-3292 21-hydroxylase  
 F-3829 delta-isomerase  
 F-3211 Succinate dehydrogenase  
 F-3533 Succinyl-coenzyme A hydrolase  
 F-3923 Succinyl-coenzyme A synthetase  
 F-3465 Sulfate adenylyltransferase  
 F-3255 Sulfite oxidase  
 F-3254 Sulfite reductase  
 F-3484 Sulfotransferase  
 F-3571 Sulfuric ester hydrolase  
 F-3571 Sulfuric esterase  
 F-3481 Sulfurtransferase  
 F-3900 Synthetase

**"T"**

F-3528 Tannase  
 F-3223 Tetrahydrofolate dehydrogenase  
 F-3373 Thiaminase I  
 F-3459 Thiamine pyrophosphokinase  
 F-3338 Thioethanolamine acetyl-  
     transferase  
 F-3613 Thioether hydrolase  
 F-3530 Thioester hydrolase  
 F-3613 Thioesterase  
 F-3339 Thioltransacetylase A  
 F-3338 Thioltransacetylase B  
 F-3482 Thiosulfate sulfurtransferase  
 F-3734 Threonine aldolase

**Disorder of:**

F-3757 Threonine dehydratase  
 F-3912 Threonyl-RNA synthetase  
 F-3642 Thrombin  
 F-3362 Thymidine phosphorylase  
 F-3330 Transacylase  
 F-3328 Transaldolase  
 F-3394 Transamidinase  
 F-3380 Transaminase  
 F-3323 Transcarbamoylase  
 F-3323 Transcarboxylase  
 F-3300 Transferase  
 F-3316 Transformiminase  
 F-3316 Transformylase  
 F-3350 Transglycosylase  
 F-3100 Transhydrogenase  
 F-3316 Transhydroxymethylase  
 F-3327 Transketolase  
 F-3310 Transmethylase  
 F-3396 Transoximinase  
 F-3604 Trehalase  
 F-3677 Trimetaphosphatase  
 F-3427 Triokinase  
 F-3196 Triosephosphate dehydrogenase  
 F-3821 Triosephosphate isomerase  
 F-3570 Triphosphoric monoester  
     hydrolase  
 F-3519 Tropinesterase  
 F-3635 Trypsin  
 F-3284 Tryptophan 5-hydroxylase  
 F-3271 Tryptophan peroxidase  
 F-3911 Tryptophanyl-RNA synthetase  
 F-3384 Tyrosine aminotransferase  
 F-3717 Tyrosine decarboxylase  
 F-3910 Tyrosyl-RNA synthetase

**"U"**

F-3243 Ubiquinone reductase  
 F-3205 Uracil dehydrogenase  
 F-3365 Uracil phosphoribosyltransferase  
 F-3252 Urate oxidase  
 F-3655 Urease  
 F-3656 3-Ureidopropionase  
 F-3815 Uridine diphosphate glucose  
     epimerase  
**Uridine diphosphoglucose**  
 F-3354 -alpha-glucan glucosyl-  
     transferase  
 F-3122 dehydrogenase  
 F-3470 pyrophosphorylase  
 F-3355 Uridine diphosphoglucuronyl-  
     transferase  
 F-3365 Uridine monophosphate  
     pyrophosphorylase  
 F-3361 Uridine phosphorylase  
 F-3469 Uridyltransferase  
 F-3527 Uronolactonase  
 F-3633 Uropepsin

**ENZYME DISORDERS-ALPHABETIC INDEX (continued)**

**Disorder of:**

**"V"**

- F-3917** Valyl-RNA synthetase  
**F-3522** Vitamin A esterase

**"X"**

- F-3203** Xanthine oxidase  
**F-3587** Xylanase  
**F-3417** Xylulokinase  
**F-3108** d-Xylulose reductase  
**F-3109** L-Xylulose reductase